

Application Serial No.: 09/782,292
Reply to Office Action dated September 23, 2003

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-13 are pending in the present application with Claims 1 and 12 having been amended by the present amendment.

In the outstanding Office Action, Claims 1-7 were rejected under 35 U.S.C. § 103(a) as unpatentable over Hashimoto et al. (hereinafter "Hashimoto et al. '263"); Claims 12 and 13 were rejected under 35 U.S.C. § 103(a) as unpatentable over Hashimoto et al. (hereinafter "Hashimoto et al. '186") in view of Hashimoto et al. '263; and Claims 8-11 were allowed.

Applicants thank the Examiner for the indication of allowable subject matter.

Claims 1-7 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Hashimoto et al. '263. This rejection is respectfully traversed.

Amended Claim 1 is directed to a plasma display device comprising a plasma display including a discharge cell having a first electrode and a second electrode, and a driving unit for driving the discharge cell by giving a potential difference between the first electrode and the second electrode. Further, the driving unit includes a pulse generation unit capable of generating a voltage pulse which continuously changes from a first voltage to a second final voltage. The driving unit controls the pulse generation unit to start outputting said voltage pulse as a voltage including the second voltage to be applied to the first electrode and then to stop the continuous change of the voltage pulse at the point of time when the voltage pulse reaches a third voltage between the first voltage and the second voltage. Further, the third voltage is applied to the first electrode at a timing before the second final voltage was to be applied to the first electrode.

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In a non-limiting example, Figure 3 illustrates a CR pulse 20 which continuously changes from a ground potential (e.g., the first voltage) to the final voltage (the second voltage V_r). The driving unit controls the pulse generation unit to start outputting the voltage pulse as a voltage including the second voltage (V_r) to be applied to the first electrode and then to stop the continuous change of the voltage pulse at the point of time when the voltage pulse reaches a third voltage (V_{r1}) between the first voltage (ground potential) and the second voltage (V_r). Note the original pulse 20 including the second final voltage is stopped such that a voltage pulse 20A is applied. Further, as shown in Figure 3, the third voltage is applied to the first electrode at a timing before the second final voltage was to be applied to the first electrode.

Because application of the CR pulse 20A itself is stopped (or the CR pulse 20A falls) at the point of time when the voltage reaches the voltage V_{r1} , in other words, after the discharge is started, no unnecessary time is spent after the start of discharge. Therefore, by using the CR pulse 20A in, e.g., the reset period or the erase period (both of which are irrelevant to the display emission or display discharge), it is possible to reduce the reset period and the like. See page 39, lines 13-18.

The outstanding Office Action indicates Hashimoto et al. '263 teaches the claimed invention and cites Figure 8. However, as shown in Figure 8, the voltage pulse applied to address electrodes A1-Am (which the outstanding Office Action indicates corresponds to the claimed third voltage) is applied at a same timing as the voltage pulse applied to the main electrodes X1-Xn (which the outstanding Office Action indicates corresponds to the claimed second final voltage). Thus, Hashimoto et al. '263 does not teach or suggest a third voltage being applied to the first electrode at a timing before the second final voltage was to be

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applied to the first electrode, and therefore does not achieve the advantages of the present invention.

Further, at the fifth line from the bottom of page 2 to the second line of page 3 of the outstanding Office Action, the outstanding Office Action indicates that “pulse Prx1 falls from 100V to 0V or the continuous change of the pulse voltage stops at the point of time when pulse Pry 2 reaches a third voltage of -120V (the third voltage is between the second final voltage of -170V and 0V of the pulse Prx1).”

However, the feature of the subject matter of amended claim 1 as amended resides in that the continuous change of the voltage pulse stops and then the third voltage of the voltage pulse is applied to the first electrode at a timing before the second final voltage is to be applied to the first electrode.

When considering Hashimoto '263 in light of the above noted feature, pulse Prx2 stops its continuous voltage change in synchronization with the timing when pulse Pry2 becomes the third voltage of -120V at a much later timing after the pulse Prx1 of the second final voltage of -170V is applied in Hashimoto '263. The subject matter of claim 1 is a completely reverse relationship. Furthermore, in Hashimoto '263, pulse Prx1 does not stop its continuous change of the pulse voltage before the second final voltage of -170V is to be applied. In addition, there is no continuous change of the pulse voltage between pulse Prx1 and pulse Prx2 in Hashimoto '263. More specifically, Prx2 is kept at a constant value of 0V for a while after pulse Prx1 rises from -170V to 0V.

Accordingly, it is respectfully submitted independent Claim 1 and each of the claims depending therefrom are allowable.

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Claims 12 and 13 stand rejected under 35 U.S.C. § 103(a) as anticipated by Hashimoto et al. '186 in view of Hashimoto et al. '263. This rejection is respectfully traversed.

Claim 12 has been amended in a similar manner to Claim 1. As noted above, Hashimoto et al. '263 do not teach or suggest the claimed features. Further, it is respectfully submitted Hashimoto et al. '186 also do not teach or suggest the third voltage being applied to the first electrode at a timing before the second final voltage was to be applied to the first electrode. Accordingly, it is respectfully requested that this rejection also be withdrawn.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance, and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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